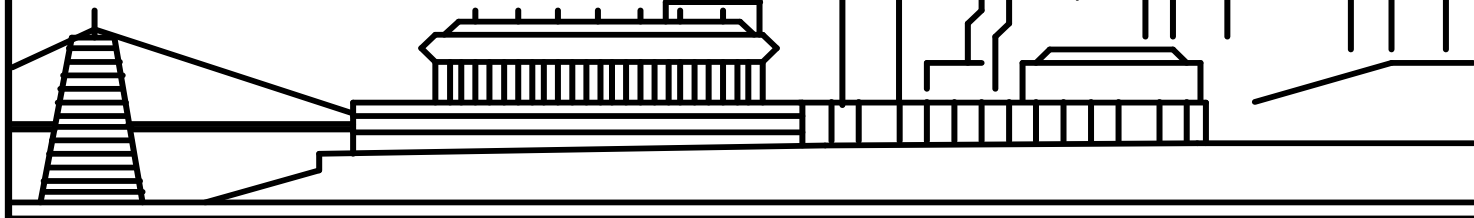




**INSTITUTE OF
ELECTRICAL &
ELECTRONICS
ENGINEERS, INC.**



APRIL 1995

IEEE CINCINNATI SECTION NEWSLETTER

APRIL MEETING

The History of Early Radio Broadcasting

DATE: THURSDAY, APRIL 27, 1995

PLACE: Institute of Advanced Manufacturing Sciences (IAMS)

TIME : 5:30 (Social Time)

6:00 (Dinner)

7:00 (Program)

8:30 (Approx. - Adjourn)

COST: \$7.00 Members

3.00 Students

9.00 Non-Members

Reservations are required for dinner only!

Please call Dee Scott at

385-9446 by NOON, Wed. March 22nd

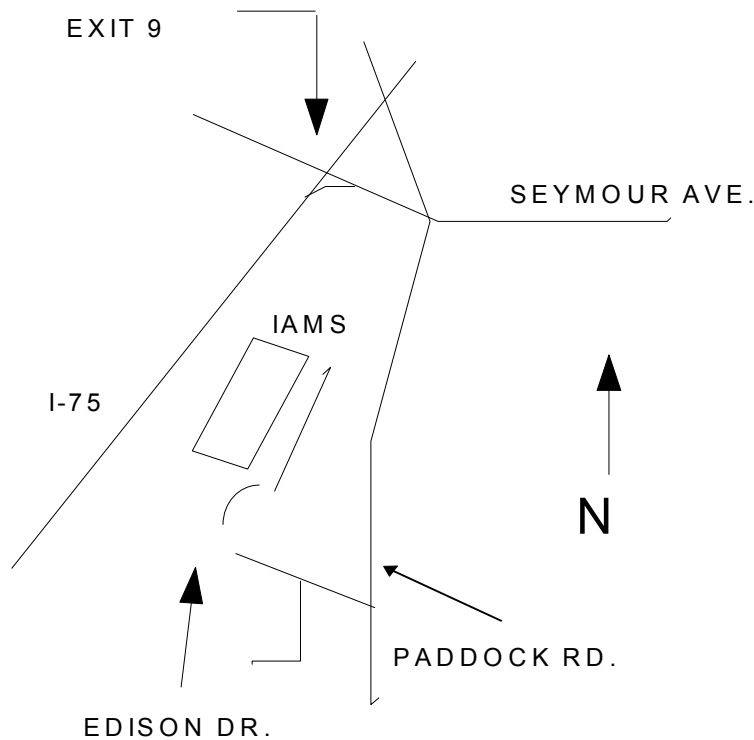
ABOUT THE PRESENTATION

The presentation, by Messrs. Clyde Hadley, Ed Dooley and Cal Bop, will feature their personal recollections regarding the early days of radio broadcasting, particularly some of the history of WLW. Also included will be a discussion of the Voice of America.

BACKGROUND OF THE SPEAKERS

Messrs. Hadley, Bop and Dooley are former employees of WLW. Clyde and Cal were electrical engineers at WLW while Ed, who was in station management, has a great interest in radio broadcasting history.

MAP TO IAMS



CHAIRMAN'S MESSAGE

by Steve Olenick

Mr. Clyde Dunsmore, a representative from Kodak, provided an informative presentation on the new self focusing camera at our last technical meeting. The computing power within the camera rivals that of the early Apple computers. Seven lucky attendees went home with various types of Kodak Camera products.

The next technical meeting, scheduled for April 27th, will review the history of early radio broadcasting. This eyewitness accounting will be presented by Clyde Hadley, Ed Dooley and Cal Bop.

We are still planning a tour of the scrubber at CG&E's East Bend Power Plant. The tour is scheduled for Saturday, May 20th. The tour will primarily focus on the new Vertical Ball Mills and their associated control system designed by CG&E and installed. More details will be forthcoming in the May Newsletter.

Now that the NCAA Basketball Tournament is over and daylight savings time is upon us, we can all get back into the swing of our golf clubs and prepare for the annual golf outing at Fairfield Golf Course on June 2. Until next time....

VHF VERSUS UHF TELEVISION

by R. J.. Reiman, Historian

VHF TV stations on the air surged from about 100 in 1950 to over 500 in 1988. The UHF broadcasters, however, were in a long and costly struggle. The propagation characteristics of UHF were not as favorable for broadcasting as for VHF, since UHF is attenuated more rapidly by terrain by its shorter wavelength. The smaller

UHF receiving antenna were less effective than their VHF counterpart and UHF sections of TV receivers were less sensitive as well. Lastly, the UHF sets were more expensive and the programs offered by the UHF stations were not sufficiently interesting to overcome the other limitations. During these years of growth, network programs were not available to the UHF'ers and being an "independent" was not too popular.

The number of UHF stations of 100 in 1950 did not get to be 200 until 1980. In 1975, the increase in availability of popular programs, the all-channels receiver law, FCC regulatory actions, the effect of cable television and technical progress all led to profitability and growth.

As the result of increased demand for programming by TV broadcasters, an industry developed to produce and distribute TV programs. Over 800 companies including 20 news services were formed in response to this demand. The total revenues which were \$324 million in 1952 grew to more than \$21 billion by 1986. The demand for TV advertising exceeded the capacity of VHF to handle it. In 1963, the FCC amended the Communications Act to require all TV sets to be able to receive both VHF and UHF channels. Improvement in the sets came gradually, helped by tighter restrictions on specifications, especially in the area of tuning.

In order to further promote UHF, the FCC increased the maximum permitted power and antenna height for UHF stations. The power limit was raised from 200KW to 5,000KW, and the antenna height from 500 feet to 2,000 feet. VHF antenna height was also raised to 2,000 feet. These changes gave UHF some degree of equality to VHF. In spite of all changes, VHF still has a significant advantage in uniform signal strength over UHF, and UHF experienced another competitor to profitability in cable TV. Recording video on magnetic tape, and color TV both led to increases in broadcasting revenues.

Meanwhile, another contest was begun, that between the transmission of TV programs, especially intercity, by cable or by microwave. The contest would challenge AT&T's monopoly over these capabilities and eventually lead to deregulation of AT&T's monopoly.

IEEE NEWS

IEEE-USA STATES POSITION ON HEALTH-CARE INFORMATION TECHNOLOGIES, PRECOLLEGE EDUCATION

WASHINGTON, Jan. 10 -- The United States Activities division of the IEEE has released position statements on developing health-care information technologies and reforming precollege education in math, science and technology. "The Role of Information Technologies in Health Care Reform" is a new position developed by IEEE-USA's Health-Care Engineering Policy Committee; "Precollege Education in Mathematics, Science and Technology in the United States" is a revision of a 1989 position formulated by IEEE-USA's Precollege Education Committee.

The new health-care position calls for the development of a uniform national health-care information system. According to the statement, "Information technologies offer a vital means of enhancing the quality of patient care, increasing access to universal care, and lowering overall costs within a national health-care program."

IEEE-USA recommends that health-care reform legislation provide for such a system through these four steps: funding construction of a national information infrastructure; building a computer-based record system; using national laboratories to help develop the system and devise security measures to safeguard patient privacy; and accelerating technology transfer from government to industry to enhance health-care delivery.

The new system would feature a health security card -- much like an ATM card -- to allow access by both providers and consumers to information about health coverage through an integrated national network. The national health infrastructure, according to the statement, would also become the foundation for a new high-technology health-care delivery system which would include telemedicine, telepresence, teleradiology, telepathology and telesurgery -- and which would represent potential new international markets for the U.S. health-care industry.

The IEEE-USA precollege education position paper cites the urgent need for a technologically literate work force in order for the U.S. to remain competitive in the global marketplace. The statement calls on engineering organizations to create local coalitions with business, educational institutions and government to work for a national goal of scientific and technological literacy for all. These organizations should support curriculum reform, the new national mathematics and science standards, better teaching training, alternative accreditation for science and engineering professionals who wish to become teachers, and greater accountability for educational excellence on the part of administrators and teachers, according to the paper.

For a copy of "The Role of Information Technologies in Health Care Reform," contact Bernadette Concepcion of IEEE-USA at 202-785-0017. For "Precollege Education in Mathematics, Science and Technology in the United States" contact Bessie Burch, also at 202-785-0017.

IEEE-USA ENDORSES EFFORTS TO CURB DISPLACEMENT OF U.S. HIGH-TECHNOLOGY WORKERS

WASHINGTON, Feb. 6 -- IEEE-USA has endorsed new U.S. Department of Labor regulations governing temporary admission of foreign professionals to work in the United States.

The new rules, effective last month, "close loopholes in existing laws and make it more difficult for companies to replace American professionals with lower-paid foreign workers," said IEEE-USA Board Chairman Joel B. Snyder. "These improvements are critical because of high unemployment among U.S. engineers, and increasing numbers of professionals in developing countries who are especially vulnerable to exploitation," Snyder added.

Under the H-1B program of the Immigration Act of 1990, temporary "specialty workers" such as engineers and other computer professionals could work in the U.S. for up to six years. The new rules limit H-1B visas to three years and beef up enforcement of employer reporting requirements. Employers must now provide specific information on the numbers of foreign nationals they intend to hire. They must also certify that H-1B workers will be paid the prevailing wage, employment of foreign nationals will not hurt working conditions for U.S. citizens, and no strikes or lockouts exist at intended worksites. In addition, the Labor Department will be empowered to investigate suspected abuses without waiting for a formal complaint.

In recent years, IEEE-USA has become more concerned about potential abuses of the H-1B program as numbers of temporary admission have skyrocketed -- even while engineering unemployment has increased to record levels. Estimated temporary admissions of foreign scientists and engineers more than doubled between 1986 and 1993 -- from 28,106 to 59,664 (based on Immigration and Naturalization Service unpublished data). During the same period, according to the Bureau of Labor Statistics, U.S. engineering unemployment ballooned from 2.3 percent to 4.1 percent. A 1993 Labor Department crackdown fined eight employers for significant H-1B violations, resulting also in payment of back wages to under-paid foreign workers.

IEEE-USA ENDORSES 'FRONT-LOADED' IRA AT SAVINGS INCENTIVE HEARINGS

WASHINGTON, Feb. 6 -- An expanded, tax-deductible Individual Retirement Account (IRA) will generate similar benefits for savers and more tax revenue for the U.S. Treasury than the non-deductible American Dream

Savings Account (ADSA), according to IEEE-USA Board Chairman Joel B. Snyder. Snyder testified Jan. 31 on savings incentives before the House Ways and Means Committee.

According to Snyder, IEEE-USA agrees with congressional leadership that changes in tax policy are urgently needed to boost personal savings and stimulate private domestic investment. However, he said: "Other than providing for easier access to and greater flexibility in the uses which can be made of account balances, the proposed ADSA's offer few, if any, advantages over other savings incentives that are currently available to taxpayers".

Snyder proposed a dramatic expansion of tax-deductible Individual Retirement Accounts. Noting the 63% decline in IRA contributions that followed restrictions enacted in 1987, he concluded that "an expanded 'front-loaded' IRA will stimulate much more in new savings than the proposed 'back-loaded' ADSA."

In addition to making IRA contributions tax-deductible, Snyder recommended the following savings incentives: removing income eligibility ceilings; expanding allowable contribution limits; and substituting loan provisions for penalty-free withdrawals.

An improved IRA will not only benefit savers and taxpayers, it will also benefit the federal Treasury, according to Snyder. "In the long run, an incentive with tax-deductible contributions and fully taxable proceeds will generate considerable more revenue when the accounts are eventually cashed out," he testified.

U.S. ENGINEERS CONCERNED ABOUT RISING IMMIGRATION, REFORM COMMISSION TOLD

WASHINGTON, Mar. 20 -- U.S. immigration policy encourages a dangerous dependence on foreign engineers and scientists, reducing educational and employment opportunities for U.S. citizens while sapping America's economic and technological competitiveness, according to IEEE-USA Board Chairman Joel B. Snyder. Snyder testified Feb. 23 on employment-based immigration before the U.S. Commission on Immigration Reform, an entity created by Congress through the Immigration Act of 1990.

"Current immigration policy -- by authorizing substantial increases in employment-based admissions -- is adversely affecting engineering job opportunities, wages and working conditions in the United States," Snyder told the commission. He cited statistics that showed admissions of foreign engineers and scientists under temporary and permanent visas skyrocketed from about 40,000 yearly in the late 1980s to more than 80,000 in the early 1990s. At the same time, engineering unemployment climbed from 1.5% in 1989 to a record high of 4.1% in 1993 when 73,000 engineers were out of work, the IEEE-USA official noted.

According to Snyder, U.S. IEEE members rejected the notion that there are widespread shortages of engineers and scientists in the United States that justify increased employment-based immigration; they question the wisdom of admissions policies that encourage the nation's growing dependence on foreign engineers; and they believe that too-easy access to foreign engineers -- many of whom will accept substandard wages or working conditions in order to work in the United States -- undermines America's considerable investment in its own engineering resources.

Snyder called for a re-examination of current immigration policies in the light of changing economic, technological and employment conditions in the United States. To help preserve opportunities for U.S. citizens, he proposed that labor certification requirements be extended to all employment-based admissions, both permanent and temporary. Snyder concluded: "IEEE-USA recommends that immigration be viewed as a supplement to -- rather than as a substitute for -- determined public and private efforts to expand our economic and technological competitiveness through better education and training and through more effective management and utilization of American workers, including engineers and scientists."

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Jack Beckmeyer - Arrangements Chairman	353-2643
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APRIL 1995

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DATED MATERIAL
Please deliver promptly